**PathProfiler Automated Quality Assessment of Retrospective Histopathology Whole Slide Image Cohorts by AI**

* Introduction:

The paper by Haghighat et al. presents PathProfiler, an automated quality assessment system that uses artificial intelligence (AI) to evaluate retrospective histopathology whole-slide image cohorts for prostate cancer research. The study aimed to improve the efficiency and accuracy of data analysis by selecting high-quality images for further analysis.

* Methods:

The study used whole-slide images of prostate cancer tissue from 101 patients. The PathProfiler system was trained on a subset of the images to identify features associated with high-quality images. The trained system was then used to evaluate the remaining images and assign a quality score to each image. The quality scores were used to select a high-quality image subset for subsequent analysis.

* Results:

The study found that PathProfiler was able to accurately evaluate the quality of whole-slide images of prostate cancer tissue. The system achieved an overall accuracy of 89.1% in identifying high-quality images. The high-quality image subset selected by the system showed improved data consistency and reduced batch effect compared to the full image cohort. The study also found that PathProfiler was able to identify image artifacts and poor quality images that were missed by manual inspection.

* Discussion:

The study concludes that the developed PathProfiler system can be an effective tool for automated quality assessment of retrospective histopathology whole-slide image cohorts for prostate cancer research. The results show that the system can improve the efficiency and accuracy of data analysis by selecting high-quality images for further analysis. The study also highlights the potential of AI technology in improving the quality and reliability of histopathology image analysis.

* Conclusion:

The study by Haghighat et al. demonstrates the potential of AI technology in automating quality assessment of retrospective histopathology whole-slide image cohorts for prostate cancer research. The results show that the developed PathProfiler system can accurately evaluate the quality of whole-slide images of prostate cancer tissue and improve the efficiency and accuracy of data analysis. The study provides useful insights for researchers and clinicians working on developing AI systems for histopathology image analysis. Overall, the study has important implications for the diagnosis, treatment, and research of prostate cancer.